In the claims:

1. A method of speech recognition comprising the steps of:

receiving input speech and non-speech at a microphone;

providing initial HMM models;

recognizing speech utterances one by one and performing adjustment of internal parameters for convolutive distortion and additive distortion at the same time without additional data collection, said recognizing step includes modifying mean vectors of said HMM models with current estimates compensating for static MFCC, first order dynamic MFCC and second order MFCC; and

providing a channel estimate as function of the acoustic and channel environment as well as the amount of channel data observed by adding SNR-dependent inertia to the channel estimate.

2. The method of claim 1 wherein said step of adding SNR-dependent inertia to the channel estimate includes the step of separating the running channel estimate from the channel estimate actually used for performing acoustic model compensation.

3. The method of claim 1 wherein the current channel estimate used for model compensation is a sum of the past channel estimate for model compensation and the weighted difference between the running channel estimate and the past channel estimate for model compensation.

4. The method of claim 3 wherein the weight above is proportional to the amount of utterances processed, and proportional to the signal-to-noise ratio of the current utterance.

5. A method of speech recognition comprising the steps of:

receiving input speech and non-speech at a microphone;

providing initial HMM models;

recognizing speech utterances one by one and performing adjustment of internal parameters for convolutive distortion and additive distortion at the same time without additional data collection, said recognizing step includes modifying mean vectors of said HMM models with current estimates compensating for static MFCC, first order dynamic MFCC and second order MFCC; and

providing a channel estimate as a function of the acoustic and channel environment as well as the amount of channel data observed by limiting the risk of divergence in the channel estimation by applying a SNR-dependent manipulation on the channel estimate.

6. The method of claim 5 includes forcing the estimate to be within a certain amplitude range.

7. The method of claim 6 including the step of adding SNR-dependent inertia to the channel estimate.

8. The method of claim 7 wherein said step of adding SNR-dependent inertia to the channel estimate includes the step of separating the running channel estimate from the channel estimate actually used for performing acoustic model compensation.

9. The method of claim 7 wherein the current channel estimate used for model compensation is a sum of the past channel estimate for model compensation and the weighted difference between the running channel estimate and the past channel estimate for model compensation.

10. The method of claim 9 wherein the weight above is proportional to the amount of utterances processed, and proportional to the signal-to-noise ratio of the current utterance.

11. The method of Claim 5 including the step of carrying the quantities allowing the determination of channel estimate obtained during determination of past utterances to a current utterance.

12. The method of Claim 1 including the step of carrying the quantities allowing the determination of channel estimate obtained during determination of past utterances to a current utterance.